

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P389020

Luminaire Tested: **24CZ2-85VHE-UNV-L940-CD1-SWPD1-U**

Issue Date: 2/28/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P389020  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-5)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-85VHE-UNV-L940-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RIBBED LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7255.2 lumens  
Efficiency: N/A  
Efficacy: 125.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.27 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

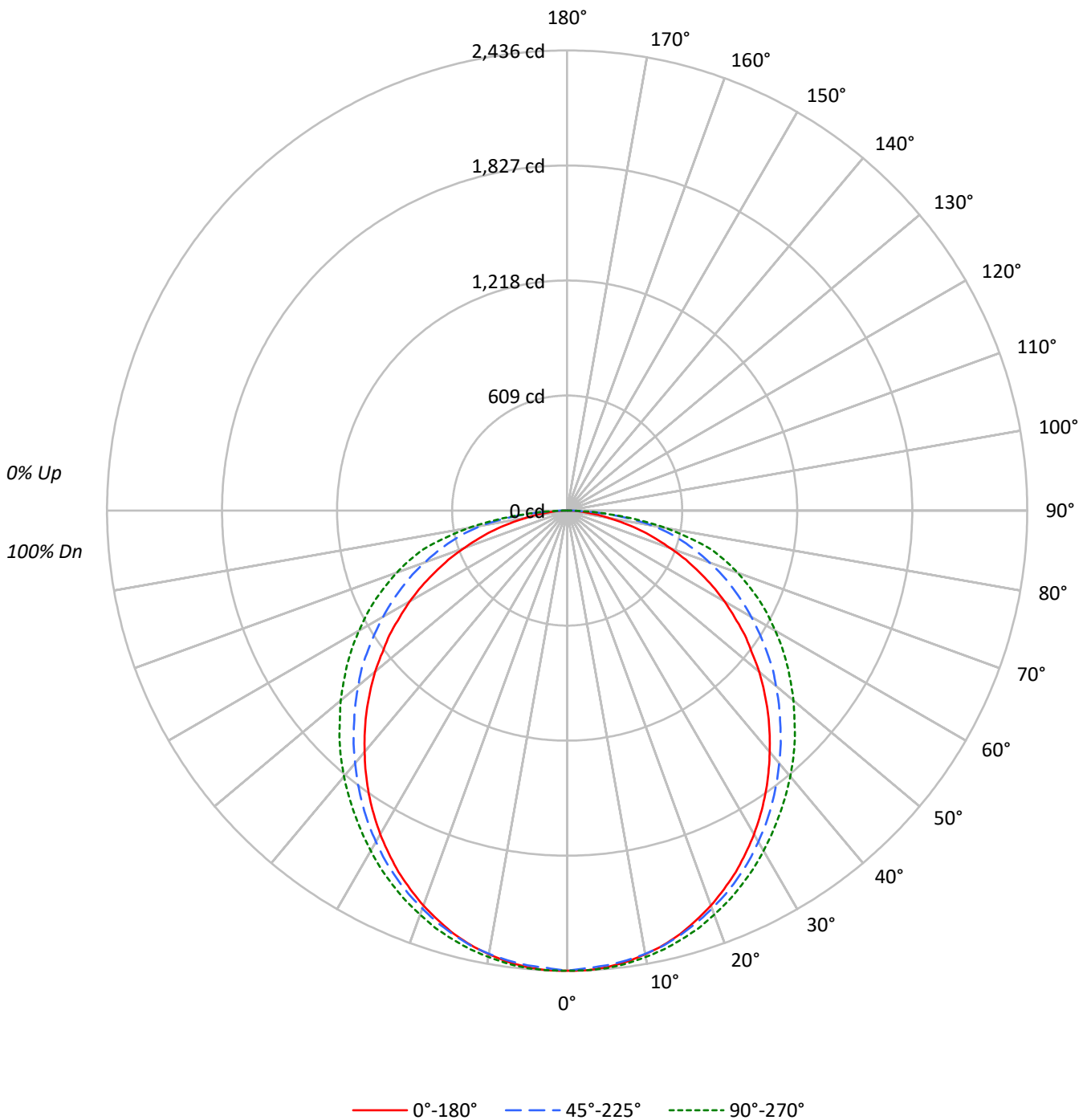
Input Watts (W): 57.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	58	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3277	3277	3277
5°	3277	3264	3284
10°	3259	3255	3278
15°	3231	3238	3272
20°	3186	3210	3259
25°	3135	3181	3246
30°	3074	3145	3232
35°	3007	3106	3222
40°	2930	3066	3228
45°	2857	3036	3244
50°	2777	3021	3274
55°	2692	3016	3334
60°	2587	3030	3421
65°	2451	3076	3569
70°	2277	3153	3772
75°	2077	3310	4091
80°	1707	3565	4090
85°	1308	3290	3514



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	230.4	3.2
10°-20°	657.7	9.1
20°-30°	989.7	13.6
30°-40°	1186.1	16.3
40°-50°	1236.0	17.0
50°-60°	1150.0	15.9
60°-70°	947.2	13.1
70°-80°	645.1	8.9
80°-90°	213.0	2.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1877.8	25.9
0°-40°	3064.0	42.2
0°-60°	5450.0	75.1
0°-90°	7255.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7255.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2436	2436	2436	2436	2436	
5°	2426	2426	2416	2429	2431	230
15°	2320	2322	2324	2346	2349	654
25°	2111	2121	2143	2179	2186	972
35°	1831	1852	1891	1942	1961	1144
45°	1501	1533	1596	1676	1705	1158
55°	1148	1186	1286	1388	1421	1023
65°	770	835	966	1080	1121	764
75°	400	489	637	751	787	421
85°	85	165	213	228	228	105
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2435.9	2435.9	2435.9	2435.9	2435.9
2.5°	2435.9	2435.9	2423.8	2435.9	2435.9
5°	2426.2	2426.2	2416.5	2428.6	2431.1
7.5°	2409.3	2411.7	2402.0	2416.5	2419.0
10°	2385.1	2387.5	2382.6	2397.2	2399.6
12.5°	2356.0	2358.4	2358.4	2375.4	2377.8
15°	2319.7	2322.1	2324.5	2346.3	2348.7
17.5°	2273.7	2280.9	2285.8	2312.4	2317.3
20°	2225.2	2232.5	2242.2	2271.3	2276.1
22.5°	2169.6	2179.2	2196.2	2227.7	2234.9
25°	2111.4	2121.1	2142.9	2179.2	2186.5
27.5°	2046.1	2060.6	2087.2	2126.0	2135.7
30°	1978.3	1992.8	2024.3	2065.4	2080.0
32.5°	1905.6	1925.0	1961.3	2007.3	2021.9
35°	1830.6	1852.4	1891.1	1941.9	1961.3
37.5°	1750.7	1774.9	1820.9	1876.6	1900.8
40°	1668.3	1697.4	1745.8	1811.2	1837.8
42.5°	1586.0	1612.6	1673.2	1743.4	1772.5
45°	1501.3	1532.7	1595.7	1675.6	1704.7
47.5°	1414.1	1445.6	1520.6	1605.4	1632.0
50°	1326.9	1358.4	1443.1	1532.7	1564.2
52.5°	1232.5	1273.6	1370.5	1460.1	1491.6
55°	1147.7	1186.5	1285.8	1387.5	1421.3
57.5°	1050.9	1096.9	1205.8	1312.4	1348.7
60°	961.3	1009.7	1125.9	1234.9	1271.2
62.5°	869.3	922.5	1046.0	1157.4	1198.6
65°	770.0	835.4	966.1	1079.9	1121.1
67.5°	680.4	748.2	886.2	1002.5	1038.8
70°	578.7	661.0	801.5	917.7	958.9
72.5°	491.5	573.9	721.6	835.4	876.5
75°	399.5	489.1	636.8	750.6	786.9
77.5°	307.5	406.8	554.5	641.7	653.8
80°	220.3	324.5	460.1	510.9	527.9
82.5°	155.0	249.4	339.0	372.9	382.6
85°	84.7	164.7	213.1	227.6	227.6
87.5°	36.3	70.2	84.7	87.2	89.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)